

EVERHOME MODIFIED SINE WAVE POWER INVERTER
DC 12V TO AC 120V 60HZ 150 Watt
Installation Manual - Operating Instructions

Congratulations. Your new EVG-150-12-120V-M Power Inverter is one of the most advanced and affordable DC to AC inverters available on the market today. This inverter, when used as described, will give you years of dependable service in your car, RV or boat.

We have taken numerous measurements in quality control and in our manufacturing process to ensure that your product arrives in top condition, and that it will perform to your satisfaction.

In the rare event that your Power Inverter maybe damaged or has a missing item, does not perform as specified, or requires warranty service, please attend our Warranty format attached.

INTRODUCTION

To get the most of your EVG-150-12-120V-M, proper installation is a critical issue. Please read the installation and operating instructions in this manual carefully before installing and using your inverter. Please pay special attention to the **CAUTION** statements in this manual. **CAUTION** statements identify conditions or practices which could result in damages to your inverter or to any other equipment.

INSTALLATION

The Battery power source must provide between 10 and 15/16 volts DC and must be able to supply sufficient current to operate the load and Inverter together. As a "rough guide line", you may divide the power consumption of the load (in watts) by 10 to obtain the current (in amperes) the power source must be able to deliver.

Example: Load is rated at 150 watts maximum for this model. Power source must be able to deliver:

150 divided by 10=15 amperes approximately.

CAUTION: The Inverter must be connected only to batteries (or battery arrangement series or parallel) with a nominal output voltage of 12 volts. The Inverter will not operate from a 6 volts nominal DC battery voltage and will be damaged if it is connected to a 24 volts nominal DC battery voltage system.

PLACEMENT OF THE INVERTER

For best operating results, the inverter should be placed on a flat surface, such as the floor or a seat of the vehicle. Approximately 60 cms of DC (positive "red" and negative "black") wires ended in a cigarette lighter connector have been provided for this purpose.

The inverter should only be used in locations that meet the following requirements:

- A.) **DRY:** Keep away from water. Do not allow water to drip or splash on the Inverter.

- B.) **COOL:** Ambient air temperature should be between 50 degrees and 80 degrees F. Do not place the inverter on or near a heating vent or any piece of equipment which is generating heat above room temperature. Do not place the inverter in direct sunlight if avoidable.
- C.) **VENTILATED:** Allow at least 3 cm of clearance around the Inverter for air flow. Do not place anything on or over the inverter during operation. Make sure that air is allowed to circulate freely around the unit.
- D.) **SAFE:** Do not use the Inverter near flammable materials or in any location which may accumulate flammable fumes or gases, such as the battery compartment of your car, truck, RV or boat.
- E.) **CONNECTING TO THE POWER SOURCE:** Your Inverter comes equipped with a cigarette lighter plug for connection to the power source (See Fig.1). Please be sure that the cigarette lighter circuit fuse in your vehicle is able to drain 20 amperes if you want to get the maximum power of this model.



CAUTION: DOES NOT USE WITH POSITIVE GROUND ELECTRICAL SYSTEMS.

CAUTION: MAKE SURE THE INVERTER IS OFF WHEN CONNECTING THE WIRES.

CONNECTING TO THE POWER SUPPLY

Your INVERTER comes equipped with a cigarette lighter plug for connection to the power source, use only one power connection to the power source use, only one power connection at a time.

WARNING: The INVERTER must only be used in a vehicle from a cigarette lighter.

Replacing the cigarette lighter plug fuse:

If the INVERTER is overloaded and the cigarette lighter plug fuse (25A) is caused to blow, open the inverter and replace. Determine the cause of the problem and remedy before attempting to use the unit again.

Do not attempt to make any repairs yourself. This would invalid your warranty. Do not make any changes to the unit this would also invalid your warranty. The warranty is not applicable in case of accidents or damages caused by inappropriate use or disrespect of the warnings contained in this manual. PAT Europe BV cannot be held responsible for personal injuries caused by a disrespect of the safety recommendations and warnings. This is also applicable to all damages in whatever form.

USE OF EQUIPMENT

Usually electrical tools, appliances and audio/video equipment have a label indicating the power consumption in amps or watts. Add up the power consumption in those items you will be using simultaneously, keeping that total below 150watts. If the power consumption is rated in amps multiply by the AC volts (120v) to determine the wattage. For example, a radio rated at 0.26amps will use 31watts, well within the limits of what the car power point can handle on a continuous basis.

Resistive loads, such as incandescent lights are the easiest for the INVERTER to drive, though larger resistive loads, such as electrical stoves or heaters, require more power than the INVERTER can deliver continuously. Inductive loads, such as TV's and stereos (any device with a coil transformer in it) require more current to operate than a resistive load of the same power rating. induction motors (motors without brushes), as well as some televisions, may require 2 to 6 times their power rating to start up. This condition may require repeated "ON/OFF, ON/OFF, ON/OFF" switching of the power switch on the car power point in order to get them started. The most demanding are those that start under load, i.e compressors and pumps. Since motor and television characteristics vary widely, only experimentation will determine if a specific load can be started and for how long it can be operated.

IMPORTANT: The car power inverter will not operate most appliances designed to produce heat, such as hair dryers, coffee makers, irons, heaters and toasters. The power use of most of these exceeds 1000 watts far beyond the capacity of this unit. This unit may be used either whilst the engine is running or turned off. Please note however it may not operate while the engine is being started, since the battery voltage can drop less than 0.4 ampere from the battery when it is not supplying power to the load. In most cases, the INVERTER may be left connected to the battery when it is not in use, since it draws so little current. If the vehicle will not be used for several days disconnect the car power inverter from the cigarette lighter.

WARNING ALARMS

Low battery: An alarm will sound when the voltage of the battery drops 11 volts. This indicates that the battery requires recharging. Operations should be stopped at this time, as the car power inverter will shut down automatically when the battery voltage drops to 10.0 volts. If the low battery alarm sounds when the battery is fully charged, follow the steps for correcting the lack of output power in the troubleshooting guide.

Overload: The alarm will sound if the car power inverter is overloaded, or if there is an excessive voltage drop between the battery and the car power inverter. NOTE: The alarm may sound momentarily when the unit is being connected to, or disconnected from, the power source. This is normal and does not indicate a problem.

High temperature: The alarm will sound if the temperature inside the car power inverter gets too hot and the INVERTER will stop working.

Battery operation: Typically a vehicle battery has a minimum operating time of 1 to 2 hours, depending on the current use of the load being driven. We recommend that the operator start the vehicle every hour to recharge the battery system to prevent unexpected shut downs of equipment, it will also ensure that there is sufficient battery capacity to start the engine.

Short circuit – Reverse polarity or short circuit condition of the load will usually result in the operation of the short circuit protection. Immediately disconnect the shorted load and contact the helpline for instructions.

Product specification	
Max.Continuous Power	150W
Input Voltage	12V DC
Output Voltage	120V AC±10%
Output frequency	60HZ±2HZ
USB Port Max.Output Voltage	5V DC ±5%
USB Port output Current	500mA
Optimum Efficiency	≥85%
No load Current Draw	≤0.3A
Waveform	Modified Sine Wave
Input Voltage Range	10-15/16Volts DC
Low battery alarm	11±0.5V DC
Low battery Shutdown	10.0±0.5VDC
Alarm and Thermal Shutdown	65±5 Degrees Celsius
Overload Protection	≥180W, recover automatically when load is under 150W
Short Circuit Protection	YES
Weight	0.47kg
Dimensions	140×75×45mm

The INVERTER is fitted with a USB port which can be used for electrical appliances with output voltage less than 5V DC and output current less than 500 mA. It is ideal for charging MP3 players, mobile phones etc. CAUTION: Do not use the USB port for electrical appliances with output voltage higher than 5V DC and output current higher than 500 mA.

Some examples of appliances which can be operated from the Car Power inverter:

- Stereo Radio Cassette players including the CD Radio Cassette
- Laptop Computers including the Laptop Computer
- Battery charges for power tools including the 18v Cordless Drill Driver and the 4.8v Cordless Screwdriver.
- Mobile Phone charges
- MP3 players
- Work lights
- Selected Power Tools up to 150 watts maximum input power.
- Colour TV's up to 150 watts input power.

Please note that items producing heat (eg. kettles, hair dryers, microwaves require more power than the Car Power inverter supply).

Trouble shooting guide		
Problem:	Possible Causes:	Suggested Remedy
Car Power inverter will not Operate	Car power inverter not adequately warmed up	Turn INVERTER power switch off and on until the INVERTER powers your appliance. Repeat as necessary until appliance starts
	Battery voltage < 10V	Charge or replace battery
	Equipment being operated draws to much power.	Reduce load to maximum of 150W
	Car power inverter in thermal shut down condition.	Car power inverter must cool down. Check for good ventilation. Make sure load is less than 30Watts continuous operation.
	Car power inverter fuse had blown	Call the helpline for instructions on how to return your unit for service.
	Battery in poor condition	Have battery checked. Replace battery
Low Voltage Alarm on Continuously	Insufficient power or large voltage drop	Check condition of cigarette lighter plug. Clean or place as necessary.
Low output voltage	Using average reading voltmeter. Car Power Point is overloaded	True RMS reading meter. Reduce load to continuous 150Watts to maintain supply.
	Input voltage below 11.0Volts.	Keep input voltage above 11.0 volts to maintain supply.
Television Interference	Snow, picture breaking up.	<p>a) Locate the INVERTER as far away as possible from the television, the antenna and the antenna cables.</p> <p>b) Adjust the orientation of the INVERTER, the antenna cables and the TV power cord to reduce interference.</p> <p>c) Make sure that the antenna feeding the TV provides an adequate ("snow free") signal and that high quality, shielded antenna cable is used. The power supply in the device does not adequately filter the modified sine wave produced by the INVERTER. Use a sound system that uses a higher quality power supply.</p>

WARRANTY FORMAT

Our Factory only sells products throughout distributor's channels and guarantees all products to the distributors by covering only the repair or replacement procedure of any damaged part of the unit, for the time-period expressed in the distributor's invoice. Factory provides standard warranty period of 1 year (Warranty period begins from the date on purchase invoice). Additional provision will be subject to contract. Additional warranty terms are available according to special sales contract.

We will honor our warranty to our distributors thru our RMA format.

The end user is subjected to the own distributor's warranty format. Please consult your provider about its warranty terms.

However, for all products, any warranty format for end users will never cover:

- Damages than can occur to external equipment or devices, as well as any compensation for dismissed lucre.
- Damages caused by external facts like: fire, water, generalized corrosion, biological infestations and by input voltages that create operating conditions beyond the maximum or minimum limits listed in the product specifications including high input voltage from generators and lightning strikes.
- Damages caused by transportation.
- Normal wear and tear of the product, and costs related to the removal, installation or troubleshooting of the customer's electrical systems.
- Damages caused by mistakes during installation procedures.
- When unit presents repairing intention by NOT AUTHORIZED personnel.
- When the explosion of any component of the surge suppression circuit causes any internal or external damage to the unit, in which case, the company considered the unit was operating correctly.
- When the original identification markings of the product (trade-mark, serial number) have been defaced, altered or removed.

All products featured in this user manual are easy to install. However, please make sure that licensed electricians verify the installation and follow all instructions indicated in the product user's manuals and/or any "special instructions" written in the standard packages of the products.

TECHNICAL INFORMATION DISCLAIMER

Any technical information displayed in the company's web page or in any written paper, catalog or user manual can be changed without previous notice.

The company makes not warranty as to the accuracy, sufficiency or suitability of any technical or other information provided in any product manual or other documentation not of its own. Furthermore, our company assumes no responsibility or liability for loss or damage, whether direct, indirect, consequential or incidental, which might arise out of the use of such information. The use of any such information will be entirely at the user's or distributor's risk.

All products' catalogs can be downloaded from the company's web page. Some technical documents are also available to supplement the product information. Photos of some products would be slightly different of the final product you would receive.

FACTORY CONTACT

If you have any enquiries or technical problems concerning this inverter, please contact our customer services locally or to:

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Represented by: